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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,668	08/07/2003	Juergen Hoffmann	033275-408	8893

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EXAMINER	
TRIEU, THAI BA	

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 04/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/635,668	HOFFMANN ET AL.	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-6,10 and 11* is/are rejected.

7)☒ Claim(s) *3 and 7-9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/993,545.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/07/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The Preliminary Amendment filed on September 09, 2003 is acknowledged.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

Since the Abstract is too long and contained ***184*** words, Applicants are required to submit a substitute abstract to meet the requirement set forth below.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within ***the range of 50 to 150 words***. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims ***1-2*** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims ***1-3 and 5*** of U.S. Patent No. ***6,644,012 B2***. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claims **1-3 and 5** of the patent "anticipates" application claims **1-2**. Accordingly, application claims **1-2** are not patentably distinct from patent claims **1-3 and 5**. Patent claim **1-3 and 5** requires following elements:

1. a gas turbine set with a cooling air system,

2. means for increasing the pressure of flow cooling air being ejectors,

3. the gas turbine set is equipped with a high pressure cooling system,

4. the high pressure cooling system is supplied from one-end stages of the compressor,

5. the low pressure cooling system is supplied from an intermediate stage of the compressor,

6. the working fluid is a working air mass flow having a total pressure higher than the pressure of a driven cooling air mass flow; and

7. the air mass flow of the working fluid is less than 20% of the driven mass flow;

while application claims **1-2** only require following elements:

1. a gas turbine set with a cooling air system,

2. means for increasing the pressure of flow cooling air being ejectors,

3. the gas turbine set is equipped with a high pressure cooling system,

4. the working fluid is a working air mass flow having a total pressure higher than the pressure of a driven cooling air mass flow; and

5. the air mass flow of the working fluid is less than 20% of the driven mass flow;

Thus it is apparent that the more specific patent claims 1-3 and 5 encompass application claims **1-2**. Following the rationale in *In re Goodman* cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer. Note that since Application claims **1-2** are anticipated by Patent claims **1-3 and 5** and since anticipation is the epitome of obviousness, then Application claims **1-2** are obvious over Patent claims **1-3 and 5**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines (Patent Number GB 2 236 145 A); in view of Urbach et al. (Patent Number 5,329,758).

Hines discloses a gas turbine set (20, 22, 30a, 30b), with a cooling air system through which at least one cooling air mass flow (via 46) flows from a compressor (20) to thermally highly loaded components of the gas turbine set, wherein means (44, 400) for increasing the pressure of flowing cooling air are arranged in a cooling air duct of the cooling air system (See Figure 1 and 4);

wherein the means for increasing the pressure are ejectors (44, 400) operating with a working fluid (See Figure 4);

wherein the working fluid is a steam mass flow (Coming form 40, via 42, through 38, then going to 44) (See Figure 1);

wherein means (48, 42, 248a, 248b, 242a, 242b) for adjusting the working medium mass flow are arranged in a supply duct for the working medium (See Figures 1-2); and

the gas turbine set being a gas turbine set with sequential combustion (See Figures 2, Page 8, lines 33-36, and Pages 9, lines 1-4).

However, Hines fails to disclose the percentage of the working fluid flow being less than 20% of a driven cooling air mass flow.

Urbach teaches that it is conventional in the steam augmented Gas turbine art, to utilize the working fluid mass flow being less than 20% of a driven cooling air mass flow (See Column 3, lines 21-28).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the percentage of the working fluid flow being less than 20% of a driven cooling air mass flow, as taught by Urbach, to improve the efficiency of the Hines device.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines (Patent Number GB 2 236 145 A); in view of Urbach et al. (Patent Number 5,329,758), an further in view of Design choice.

The modified Hines device discloses the invention as recited above; however, fails to disclose the air mass flow of the working fluid being less than 10% and 5% of the driven mass flow.

One having an ordinary skill in the gas turbine engine art, would have found the air mass flow of the working fluid being less than 10% and 5% of the driven mass flow, as a matter of design choice depending on the gas turbine engine requirements. Moreover, there is nothing in the record, which establishes that the claimed pressure ratio of the compressor, presents a novel of unexpected result (See In re Kuhle, 526 F. 2d 553, 188 USPQ 7 (CCPA 1975)).

Allowable Subject Matter

Claims ***3 and 7-9*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Fukue et al.(US Patent Number 6,065,282) disclose a system for cooling blades in gas turbine.

- Ranasinghe et al. (US Patent Number 6,412,285 B1) disclose a cooling air system and method for combined cycle power plants.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
April 27, 2004

Thai-Ba Trieu
Patent Examiner
Art Unit 3748